

Method and Circuit for Generating a Tracking Error Signal Using Differential Phase Detection

ABSTRACT OF THE INVENTION

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A circuit for generating tracking error signal using differential phase detection, comprising a quadrant photodetector for receiving optical signal and inducing splitting signal A, splitting signal B, splitting signal C and splitting signal D, two adders for generating group signal (A+C) and group signal (B+D). A plurality of equalizers for receiving, equalizing and amplifying splitting signal A, splitting signal B, splitting signal C, splitting signal D, group signal (A+C) and group signal (B+D). A plurality of phase detectors for receiving the output of equalizers and comparing phase difference of splitting signal A and group signal (A+C), group signal (A+C) and splitting signal B, splitting signal C and group signal (B+D), and group signal (B+D) and splitting signal D, and outputting a plurality of adjustment signals respectively. A circuit for eliminating the phase difference by adding and subtracting some adjustment signals with same phase difference. A comparator for receiving and comparing the output of the circuit to obtain a tracking error signal.

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